SEQUENCE LISTING

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<120> METHODS AND COMPOUNDS FOR MODULATING NUCLEAR RECEPTOR COACTIVAOR BINDING

<130> 9811-008-999

<140> 09/281,717
<141> 1999-03-30

<150> US 60/079,956
<151> 1998-03-30

<160> 60

<170> PatentIn version 3.0

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<223> Xaa is any amino acid

<400> 1
Leu Xaa Xaa Leu Leu
1 5

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Ile Leu Xaa Xaa Leu Leu
1 5

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Phe Xaa Xaa Ala Leu
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Ala Glu Gly His Ser Arg Leu His Asp Ser Lys Gly Gln Thr Lys Leu
1 5 10 15
Leu Gln Leu Leu Thr Thr Lys Ser Glu Gln Met Glu Pro Ser Pro Leu
20 25 30
Ala Ser

<210> 6
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<222> (16)..(16)
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Pro Gly Ser Thr His Gly Thr Ser Leu Lys Glu Lys His Lys Ile Leu
1 5 10 15
His Arg Leu Leu Gln Asp Ser Ser Ser Pro Val Asp Leu Ala Lys Leu
20 25 30
Thr Ala

<210> 7
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<213> Homo sapiens

<400> 7
Glu Pro Ala Ser Pro Lys Lys Lys Glu Asn Ala Leu Leu Arg Tyr Leu
1 5 10 15
Leu Asp Lys Asp Asp Thr Lys Asp Ile Gly Leu Pro Glu Ile Thr
20 25 30
<210> 8
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<213> Homo sapiens

<400> 8
Ala Asp Gly Gln Ser Arg Leu His Asp Ser Lys Gly Gln Thr Lys Leu
1 5 10 15
Leu Gln Leu Leu Thr Thr Lys Ser Glu Gln Met Glu Pro Ser Pro Leu
20 25 30
Ala Ser

<210> 9
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Ser Gly Ser Thr His Gly Thr Ser Leu Lys Glu Lys His Lys Ile Leu
1 5 10 15
His Arg Leu Leu Gln Asp Ser Ser Ser Pro Val Asp Leu Ala Lys Leu

20 25 30
Thr Ala

<210> 10
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1 5 10 15
Leu Asp Lys Asp Asp Thr Lys Asp Ile Gly Leu Pro Glu Ile Thr
20 25 30

<210> 11
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Ala Glu Gly His Ser Arg Leu His Asp Ser Lys Gly Gln Thr Lys Leu
1 5 10 15
Leu Gln Leu Leu Thr Thr Lys Ser Glu Gln Met Glu Pro Ser Pro Leu
20 25 30
Pro Ser

<210> 12
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<400> 12
Pro Gly Ser Thr His Gly Thr Ser Leu Lys Glu Lys His Lys Ile Leu
1 5 10 15
His Arg Leu Leu Gln Asp Ser Ser Ser Pro Val Asp Leu Ala Lys Leu
20 25 30
Thr Ala

<210> 13
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Glu Pro Ala Ser Pro Lys Lys Lys Glu Asn Ala Leu Leu Arg Tyr Leu
1 5 10 15
Leu Asp Lys Asp Asp Thr Lys Asp Ile Gly Leu Pro Ser Ile Thr
20 25 30

<210> 14
<211> 34
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<213> Homo sapiens

<400> 14
Ala Glu Asn Gln Arg Gly Pro Leu Glu Ser Lys Gly His Lys Lys Leu
1 5 10 15
Leu Gln Leu Leu Thr Cys Ser Ser Glu Asp Arg Gly His Ser Ser Leu
20 25 30
Thr Asn

<210> 15
<211> 34

<212> PRT
<213> Homo sapiens

<400> 15
Thr Ser Asn Met His Gly Ser Leu Leu Gln Glu Lys His Arg Ile Leu
1 5 10 15
His Lys Leu Leu Gln Asn Gly Asn Ser Pro Ala Glu Val Ala Lys Ile
20 25 30
Thr Ala

<210> 16
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<213> Homo sapiens

<400> 16
Glu Gln Leu Ser Pro Lys Lys Lys Glu Asn Asn Ala Leu Leu Arg Tyr
1 5 10 15
Leu Leu Asp Arg Asp Asp Pro Ser Asp Val Leu Ala Lys Lys Leu Gln
20 25 30
<210> 17
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<400> 17
Ala Glu Asn Gln Arg Gly Pro Leu Glu Ser Lys Gly His Lys Lys Leu
1 5 10 15
Leu Gln Leu Leu Thr Cys Ser Ser Asp Asp Arg Gly His Ser Ser Leu
20 25 30
Thr Asn

<210> 18
<211> 34
<212> PRT
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<400> 18
Thr Ser Asn Met His Gly Ser Leu Leu Gln Glu Lys His Arg Ile Leu
1 5 10 15
His Lys Leu Leu Gln Asn Gly Asn Ser Pro Ala Glu Val Ala Lys Ile
20 25 30
Thr Ala

<210> 19
<211> 32
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<213> Homo sapiens

<400> 19
Glu Gln Leu Ser Pro Lys Lys Lys Glu Asn Asn Ala Leu Leu Arg Tyr
1 5 10 15
Leu Leu Asp Arg Asp Asp Pro Ser Asp Ala Leu Ser Lys Glu Leu Gln
20 25 30
<210> 20
<211> 34
<212> PRT
<213> Homo sapiens

<400> 20
Ser Glu Thr Pro Arg Gly Pro Leu Glu Ser Lys Gly His Lys Lys Leu

1 5 10 15
Leu Gln Leu Leu Thr Cys Ser Ser Glu Asp Arg Gly His Ser Ser Leu
20 25 30
Thr Asn

<210> 21
<211> 34
<212> PRT
<213> Homo sapiens

<400> 21
Thr Ser Asn Val His Gly Ser Leu Leu Gln Glu Lys His Arg Ile Leu
1 5 10 15
His Lys Leu Leu Gln Asn Gly Asn Ser Pro Ala Glu Val Ala Lys Ile
20 25 30
Thr Ala

<210> 22
<211> 32
<212> PRT
<213> Homo sapiens

<400> 22
Glu Gln Leu Ser Pro Lys Lys Lys Glu Asn Asn Ala Leu Leu Arg Tyr
1 5 10 15
Leu Leu Asp Arg Asp Asp Pro Ser Asp Ala Leu Ser Lys Glu Leu Gln
20 25 30
<210> 23
<211> 32
<212> PRT
<213> Homo sapiens

<400> 23
Ser Glu Gly Asp Ser Lys Tyr Ser Gln Thr Ser His Lys Leu Val Gln
1 5 10 15
Leu Leu Thr Thr Thr Ala Glu Gln Gln Leu Arg His Ala Asp Ile Asp
20 25 30
<210> 24
<211> 33
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<213> Homo sapiens

<400> 24
Thr Cys Pro Ser Ser His Ser Ser Leu Thr Glu Arg His Lys Ile Leu
1 5 10 15
His Arg Leu Leu Gln Glu Gly Ser Pro Ser Asp Ile Thr Thr Leu Ser
20 25 30
Val
<210> 25
<211> 34
<212> PRT
<213> Homo sapiens

<400> 25
Glu Leu Asp Ala Ala Lys Lys Lys Glu Ser Lys Asp His Gln Leu Leu
1 5 10 15
Arg Tyr Leu Leu Asp Lys Asp Glu Lys Asp Leu Arg Ser Thr Pro Asn
20 25 30
Leu Cys

<210> 26

<211> 34
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<223> Xaa is a negatively charged amino acid

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<222> (17)..(17)
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<222> (22)..(24)
<223> Xaa is any amino acid

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<221> Variant
<222> (26)..(34)
<223> Xaa is any amino acid

<400> 26
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ser Xaa Xaa Xaa Xaa Lys Leu
1 5 10 15
Xaa Gln Leu Leu Thr Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20 25 30
Xaa Xaa

<210> 27
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<213> Homo sapiens

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<222> (28)..(28)
<223> Xaa is a negatively charged amino acid

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<222> (29)..(29)
<223> Xaa is a hydrophobic amino acid

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<222> (32)..(32)
<223> Xaa is a hydrophobic amino acid

<400> 27
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Leu Xaa Glu Xaa His Xaa Ile Leu
1 5 10 15
His Xaa Leu Leu Gln Xaa Xaa Xaa Ser Pro Xaa Xaa Xaa Xaa Xaa Xaa
20 25 30
Xaa Xaa

<210> 28
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<222> (2)..(5)
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<223> Xaa is any amino acid

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<222> (34)..(34)
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<400> 28
Glu Xaa Xaa Xaa Xaa Lys Lys Lys Glu Xaa Xaa Xaa Xaa Xaa Leu Leu
1 5 10 15
Arg Tyr Leu Leu Asp Xaa Asp Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
20 25 30
Xaa Xaa

<210> 29
<211> 18
<212> PRT
<213> Homo sapiens

<400> 29
Thr Ser Leu Lys Glu Lys His Lys Leu Leu Arg Tyr Leu Leu Gln Asp
1 5 10 15
Ser Ser

<210> 30
<211> 33
<212> PRT
<213> Homo sapiens

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<222> (5)..(5)
<223> Thr --> Arg (T281R)

<220>
<221> MUTAGEN
<222> (8)..(8)
<223> Val --> Arg (V284R)

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<222> (9)..(9)
<223> Asp --> Ala (D285A)

<220>
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<222> (12)..(12)
<223> Lys --> Ala (K288A)

<220>
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<222> (22)..(22)
<223> Cys --> Arg (C298R)

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<222> (26)..(26)
<223> Ile --> Arg (I302R)

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<222> (30)..(30)
<223> Lys --> Ala (K306A)

<400> 30
Thr Pro Ala Ile Thr Arg Val Val Asp Phe Ala Lys Lys Leu Pro Met
1 5 10 15
Phe Cys Glu Leu Pro Cys Glu Asp Gln Ile Ile Leu Leu Lys Gly Cys
20 25 30
Cys
<210> 31
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<223> Leu --> Arg (L454R)

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<222> (7)..(7)
<223> Leu --> Arg (L456R)

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<222> (8)..(8)
<223> Glu -->Lys (E457K)

<400> 31
Leu Phe Pro Pro Leu Phe Leu Glu Val Phe Glu Asp
1 5 10
<210> 32
<211> 33
<212> PRT
<213> Homo sapiens

<400> 32
Thr Pro Ala Ile Thr Arg Val Val Asp Phe Ala Lys Lys Leu Pro Met
1 5 10 15
Phe Ser Glu Leu Pro Cys Glu Asp Gln Ile Ile Leu Leu Lys Gly Cys
20 25 30
Cys
<210> 33
<211> 12
<212> PRT
<213> Homo sapiens

<400> 33
Leu Phe Pro Pro Leu Phe Leu Glu Val Phe Glu Asp
1 5 10
<210> 34
<211> 33
<212> PRT
<213> Homo sapiens

<400> 34
Thr Lys Cys Ile Ile Lys Ile Val Glu Phe Ala Lys Arg Leu Pro Gly
1 5 10 15
Phe Thr Gly Leu Ser Ile Ala Asp Gln Ile Thr Leu Leu Lys Ala Ala
20 25 30
Cys
<210> 35
<211> 12
<212> PRT
<213> Homo sapiens

<400> 35
Leu Phe Pro Pro Leu Phe Leu Glu Val Phe Glu Asp
1 5 10
<210> 36
<211> 33
<212> PRT
<213> Homo sapiens

<400> 36
Asp Lys Gln Leu Phe Thr Leu Val Glu Trp Ala Lys Arg Ile Pro His
1 5 10 15
Phe Ser Glu Leu Pro Leu Asp Asp Gln Val Ile Leu Leu Lys Ala Gly
20 25 30
Trp
<210> 37
<211> 12
<212> PRT
<213> Homo sapiens

<400> 37
Pro Ile Asp Thr Phe Leu Met Glu Met Leu Glu Ala
1 5 10
<210> 38
<211> 33
<212> PRT
<213> Homo sapiens

<400> 38
Val Glu Ala Val Gln Glu Ile Thr Glu Tyr Ala Lys Asn Ile Pro Gly
1 5 10 15
Phe Ile Asn Leu Asp Leu Asn Asp Gln Val Thr Leu Leu Lys Tyr Gly
20 25 30
Val
<210> 39
<211> 12
<212> PRT
<213> Homo sapiens

<400> 39
Ser Leu His Pro Leu Leu Gln Glu Ile Tyr Lys Asp
1 5 10
<210> 40
<211> 33
<212> PRT
<213> Homo sapiens

<400> 40
Ser Tyr Ser Ile Gln Lys Val Ile Gly Phe Ala Lys Met Ile Pro Gly
1 5 10 15
Phe Arg Asp Leu Thr Ser Glu Asp Gln Ile Val Leu Leu Lys Ser Ser

20 25 30
Ala
<210> 41
<211> 12
<212> PRT
<213> Homo sapiens

<400> 41
Lys Leu Thr Pro Leu Val Leu Glu Val Phe Gly Asn
1 5 10
<210> 42
<211> 33
<212> PRT
<213> Homo sapiens

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<221> MUTAGEN
<222> (26)..(26)
<223> Val -->Arg (V376R)

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Asp Arg Glu Leu Val His Met Ile Asn Trp Ala Lys Arg Val Pro Gly
1 5 10 15
Phe Val Asp Leu Thr Leu His Asp Gln Val His Leu Leu Glu Cys Ala
20 25 30
Trp
<210> 43
<211> 12
<212> PRT
<213> Homo sapiens

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<400> 43
Pro Leu Tyr Asp Leu Leu Leu Glu Met Leu Asp Ala
1 5 10
<210> 44
<211> 33
<212> PRT
<213> Homo sapiens

<400> 44
Gly Arg Gln Val Ile Ala Ala Val Lys Trp Ala Lys Ala Ile Pro Gly
1 5 10 15
Phe Arg Asn Leu His Leu Asp Asp Gln Met Thr Leu Leu Gln Tyr Ser
20 25 30
Trp
<210> 45
<211> 12
<212> PRT
<213> Homo sapiens

<400> 45

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Glu Phe Pro Glu Met Leu Ala Glu Ile Ile Thr Asn
1               5                   10
<210>  46
<211>  33
<212>  PRT
<213>  Homo sapiens

<400>    46
Glu Arg Gln Leu Leu Ser Val Val Lys Trp Ser Lys Ser Leu Pro Gly
1               5                   10                  15
Phe Arg Asn Leu His Ile Asp Asp Gln Ile Thr Leu Ile Gln Tyr Ser
            20                  25                  30
Trp
<210>  47
<211>  12
<212>  PRT
<213>  Homo sapiens

<400>    47
Glu Phe Pro Glu Met Met Ser Glu Val Ile Ala Ala
1               5                   10
<210>  48
<211>  33
<212>  PRT
<213>  Homo sapiens

<400>    48
Gly Lys Gln Met Ile Gln Val Val Lys Trp Ala Lys Val Leu Pro Gly
1               5                   10                  15
Phe Lys Asn Leu Pro Leu Glu Asp Gln Ile Thr Leu Ile Gln Tyr Ser
            20                  25                  30
Trp
<210>  49
<211>  12
<212>  PRT
<213>  Homo sapiens

<400>    49
Glu Phe Pro Ala Met Leu Val Glu Ile Ile Ser Asp
1               5                   10
<210>  50
<211>  33
<212>  PRT
<213>  Homo sapiens

<400>    50
Glu Arg Gln Leu Val His Val Val Lys Trp Ala Lys Ala Leu Pro Gly
1               5                   10                  15
Phe Arg Asn Leu His Val Asp Asp Gln Met Ala Val Ile Gln Tyr Ser
            20                  25                  30
Trp
<210>  51
<211>  12
<212>  PRT
<213>  Homo sapiens

<400>    51
Asp Phe Pro Glu Met Met Ala Glu Ile Ile Ser Val
1               5                   10
<210>  52
<211>  251
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<212> PRT
<213> Homo sapiens

<220>
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<220>
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<400> 52
Lys Pro Glu Pro Thr Asp Glu Glu Trp Glu Leu Ile Lys Thr Val Thr
1 5 10 15
Ala Ala His Val Ala Thr Asn Ala Gln Gly Ser His Trp Lys Asn Lys
20 25 30
Arg Lys Phe Leu Pro Glu Asp Ile Gly Gln Ala Pro Xaa Xaa Xaa Xaa
35 40 45
Xaa Xaa Xaa Xaa Lys Val Asp Leu Glu Ala Phe Ser His Phe Thr Lys
50 55 60
Ile Ile Thr Pro Ala Ile Thr Arg Val Val Asp Phe Ala Lys Lys Leu
65 70 75 80
Pro Met Phe Cys Glu Leu Pro Cys Glu Asp Gln Ile Ile Leu Leu Lys
85 90 95
Gly Cys Cys Met Glu Ile Met Ser Leu Arg Ala Ala Val Arg Tyr Asp
100 105 110
Pro Glu Ser Glu Thr Leu Thr Leu Asn Gly Glu Met Ala Val Thr Arg
115 120 125
Gly Gln Leu Lys Asn Gly Gly Leu Gly Val Val Ser Asp Ala Ile Phe
130 135 140
Asp Leu Gly Met Ser Leu Ser Ser Phe Asn Leu Asp Asp Thr Glu Val
145 150 155 160
Ala Leu Leu Gln Ala Val Leu Leu Met Ser Ser Asp Arg Pro Gly Leu
165 170 175
Ala Cys Val Ala Arg Ile Glu Lys Tyr Gln Asp Ser Phe Leu Leu Ala
180 185 190
Phe Glu His Tyr Ile Asn Tyr Arg Lys His His Val Thr His Phe Trp
195 200 205
Pro Lys Leu Leu Met Lys Val Thr Asp Leu Arg Met Ile Gly Ala Cys
210 215 220
His Ala Ser Arg Phe Leu His Met Lys Val Glu Cys Pro Thr Glu Leu
225 230 235 240
Phe Pro Pro Leu Phe Leu Glu Val Phe Glu Asp
245 250

<210> 53
<211> 251
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (45)..(50)
<223> Xaa is any amino acid

<220>
<223> Position 1 corresponds to position 211 of mature peptide

<400> 53
Lys Pro Glu Pro Thr Asp Glu Glu Trp Glu Leu Ile Lys Thr Val Thr
1 5 10 15

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Ala Ala His Val Ala Thr Asn Ala Gln Gly Ser His Trp Lys Asn Lys
            20                  25                  30
Arg Lys Phe Leu Pro Glu Asp Ile Gly Gln Ala Pro Xaa Xaa Xaa Xaa
        35                  40                  45
Xaa Xaa Gly Gly Lys Val Asp Leu Glu Ala Phe Ser His Phe Thr Lys
    50                  55                  60
Ile Ile Thr Pro Ala Ile Thr Arg Val Val Asp Phe Ala Lys Lys Leu
65                  70                  75                  80
Pro Met Phe Cys Glu Leu Pro Cys Glu Asp Gln Ile Ile Leu Leu Lys
                85                  90                  95
Gly Cys Cys Met Glu Ile Met Ser Leu Arg Ala Ala Val Arg Tyr Asp
            100                 105                 110
Pro Glu Ser Glu Thr Leu Thr Leu Asn Gly Glu Met Ala Val Thr Arg
        115                 120                 125
Gly Gln Leu Lys Asn Gly Gly Leu Gly Val Val Ser Asp Ala Ile Phe
    130                 135                 140
Asp Leu Gly Met Ser Leu Ser Ser Phe Asn Leu Asp Asp Thr Glu Val
145                 150                 155                 160
Ala Leu Leu Gln Ala Val Leu Leu Met Ser Ser Asp Arg Pro Gly Leu
                165                 170                 175
Ala Cys Val Ala Arg Ile Glu Lys Tyr Gln Asp Ser Phe Leu Leu Ala
            180                 185                 190
Phe Glu His Tyr Ile Asn Tyr Arg Lys His His Val Thr His Phe Trp
        195                 200                 205
Pro Lys Leu Leu Met Lys Val Thr Asp Leu Arg Met Ile Gly Ala Cys
    210                 215                 220
His Ala Ser Arg Phe Leu His Met Lys Val Glu Cys Pro Thr Glu Leu
225                 230                 235                 240
Phe Pro Pro Leu Phe Leu Glu Val Phe Glu Asp
                245                 250
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<210> 54
<211> 13
<212> PRT
<213> Homo sapiens

<220>
<223> Position 1 corresponds to position 686 of mature peptide

<400> 54
Lys His Lys Ile Leu His Arg Leu Leu Gln Asp Ser Ser
1   5   10

<210> 55
<211> 9
<212> PRT
<213> Homo sapiens

<220>
<223> Position 1 corresponds to position 688 of mature peptide

<400> 55
Lys Ile Leu His Arg Leu Leu Gln Asp
1   5

<210> 56
<211> 245
<212> PRT
<213> Homo sapiens

<220>
<223> Position 1 corresponds to position 305 of mature peptide

<400> 56
Ser Leu Ala Leu Ser Leu Thr Ala Asp Gln Met Val Ser Ala Leu Leu
1 5 10 15
Asp Ala Glu Pro Pro Ile Leu Tyr Ser Glu Tyr Asp Pro Thr Arg Pro
20 25 30
Phe Ser Glu Ala Ser Met Met Gly Leu Leu Thr Asn Leu Ala Asp Arg
35 40 45
Glu Leu Val His Met Ile Asn Trp Ala Lys Arg Val Pro Gly Phe Val
50 55 60
Asp Leu Thr Leu His Asp Gln Val His Leu Leu Glu Cys Ala Trp Leu
65 70 75 80
Glu Ile Leu Met Ile Gly Leu Val Trp Arg Ser Met Glu His Pro Gly
85 90 95
Lys Leu Leu Phe Ala Pro Asn Leu Leu Leu Asp Arg Asn Gln Gly Lys
100 105 110
Cys Val Glu Gly Met Val Glu Ile Phe Asp Met Leu Leu Ala Thr Ser
115 120 125
Ser Arg Phe Arg Met Met Asn Leu Gln Gly Glu Glu Phe Val Cys Leu
130 135 140
Lys Ser Ile Ile Leu Leu Asn Ser Gly Val Tyr Thr Phe Leu Ser Ser
145 150 155 160
Thr Leu Lys Ser Leu Glu Glu Lys Asp His Ile His Arg Val Leu Asp
165 170 175
Lys Ile Thr Asp Thr Leu Ile His Leu Met Ala Lys Ala Gly Leu Thr
180 185 190
Leu Gln Gln Gln His Gln Arg Leu Ala Gln Leu Leu Leu Ile Leu Ser
195 200 205
His Ile Arg His Met Ser Asn Lys Gly Met Glu His Leu Tyr Ser Met
210 215 220
Lys Cys Lys Asn Val Val Pro Leu Tyr Asp Leu Leu Leu Glu Met Leu
225 230 235 240
Asp Ala His Arg Leu
245

<210> 57
<211> 237
<212> PRT
<213> Homo sapiens

<220>
<223> Position 1 corresponds to position 305 of mature peptide

<400> 57
Ser Leu Ala Leu Ser Leu Thr Ala Asp Gln Met Val Ser Ala Leu Leu
1 5 10 15
Asp Ala Glu Pro Pro Ile Leu Tyr Ser Glu Tyr Asp Pro Thr Arg Pro
20 25 30
Phe Ser Glu Ala Ser Met Met Gly Leu Leu Thr Asn Leu Ala Asp Arg
35 40 45
Glu Leu Val His Met Ile Asn Trp Ala Lys Lys Arg Val Pro Gly Phe
50 55 60
Val Asp Leu Thr Leu His Asp Gln Val His Leu Leu Glu Cys Ala Trp
65 70 75 80
Leu Glu Ile Leu Met Ile Gly Leu Val Trp Arg Ser Met Glu His Pro
85 90 95
Gly Lys Leu Leu Phe Ala Pro Asn Leu Leu Leu Asp Arg Asn Gln Gly
100 105 110
Lys Cys Val Gly Gly Met Val Glu Ile Phe Asp Met Leu Leu Ala Thr
115 120 125
Ser Ser Arg Phe Arg Met Met Asn Leu Gln Gly Glu Glu Phe Val Cys
130 135 140
Leu Lys Ser Ile Ile Leu Leu Asn Ser Gly Val Tyr Thr Phe Glu Lys

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145                 150                 155                 160
Asp His Ile His Arg Val Leu Asp Lys Ile Thr Asp Thr Leu Ile His
                165                 170                 175
Leu Met Ala Lys Ala Gly Leu Thr Leu Gln Gln Gln His Gln Arg Leu
            180                 185                 190
Ala Gln Leu Leu Leu Ile Leu Ser His Ile Arg His Met Ser Asn Lys
        195                 200                 205
Gly Met Glu His Leu Tyr Ser Met Lys Cys Lys Asn Val Val Pro Leu
    210                 215                 220
Tyr Asp Leu Leu Leu Glu Met Leu Asp Ala His Arg Leu
225                 230                 235
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<213>  Homo sapiens

<220>
<223> Position 1 corresponds to position 687 of mature peptide

<400>    58
His Lys Ile Leu His Arg Leu Leu Gln Asp Ser
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<212>  PRT
<213>  Homo sapiens

<220>
<223> Position 1 corresponds to position 306 of mature peptide

<400>    59
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Ala Glu Pro Pro Ile Leu Tyr Ser Glu Tyr Asp Pro Thr Arg Pro Phe
            20                  25                  30
Ser Glu Ala Ser Met Met Gly Leu Leu Thr Asn Leu Ala Asp Arg Glu
        35                  40                  45
Leu Val His Met Ile Asn Trp Ala Lys Arg Val Pro Gly Phe Val Asp
    50                  55                  60
Leu Thr Leu His Asp Gln Val His Leu Leu Glu Cys Ala Trp Leu Glu
65                  70                  75                  80
Ile Leu Met Ile Gly Leu Val Trp Arg Ser Met Glu His Pro Gly Lys
                85                  90                  95
Leu Leu Phe Ala Pro Asn Leu Leu Leu Asp Arg Asn Gln Gly Lys Cys
            100                 105                 110
Val Glu Gly Met Val Glu Ile Phe Asp Met Leu Leu Ala Thr Ser Ser
        115                 120                 125
Arg Phe Arg Met Met Asn Leu Gln Gly Glu Glu Phe Val Cys Leu Lys
    130                 135                 140
Ser Ile Ile Leu Leu Asn Ser Gly Val Tyr Thr Phe Leu Ser Ser Thr
145                 150                 155                 160
Leu Lys Ser Leu Glu Glu Lys Asp His Ile His Arg Val Leu Asp Lys
                165                 170                 175
Ile Thr Asp Thr Leu Ile His Leu Met Ala Lys Ala Gly Leu Thr Leu
            180                 185                 190
Gln Gln Gln His Gln Arg Leu Ala Gln Leu Leu Leu Ile Leu Ser His
        195                 200                 205
Ile Arg His Met Ser Asn Lys Gly Met Glu His Leu Tyr Ser Met Lys
    210                 215                 220
Cys Lys Asn Val Val Pro Leu Tyr Asp Leu Leu Leu Glu Met Leu Asp
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Ala His Arg Leu His Ala
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<220>
<223> Position 1 corresponds to position 686 of mature peptide

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Lys His Lys Ile Leu His Arg Leu Leu Gln Asp
1 5 10